



# INDEXA

Helping to Make DX Happen Since 1983

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## 3D2EU—Rotuma IOTA OC-060—2018

By Ronald Stuy, PA3EWP



The Operators—Ronald, Hans, Ernö, and Heye

Rotuma is an island belonging to the Republic of Fiji. It is 650 KM north from the main island, therefore it is a separate DXCC entity. Only a few amateurs have activated this island. Tony 3D2AG goes to Rotuma a few times a year for his work and family visits. In 2014, a large group of amateurs were active as 3D2R. Rotuma was on our wish list for a few years, this year we realized it, but certainly not without setbacks.

Rotuma is not a tourist island—a hotel does not exist. If you go to Rotuma you always have to stay with local people. You can go to Rotuma by boat, which sails once a month from Fiji, or by plane. The plane goes once a week from Suva (the Fiji capital). It is a small plane because the runway on Rotuma was on a lawn until last month. When the plane cannot land in bad weather, it will be postponed until the weather is improved. During our stay they worked on a paved runway so in the future it's more certain that the flight will go even during bad weather. The period we had chosen was in the winter months in order to make use of the propagation on the low bands. The disadvantage of this period is that it is also hurricane season in the Pacific.

In the middle of 2017, we contacted Tony 3D2AG asking about the possibilities of activating Rotuma. After many email exchanges we decided to use an offer Tony put before us. He would also go with us and we would stay with his family in Fapufa. We were not happy with this location because it is exactly behind a hill towards Europe, which meant working Europe only via the long path. After some discussions, we decided to take a second location on the north side of the island, in the village of Maftoa. This location had already been used by American operators. Here is a house (radio shack) at the beach with a clear view to Europe. We would stay with John and Harieta Bennet. Their house was about

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## 3D2EU—Rotuma IOTA OC-060—2018 (Con'd)

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400 meters from the radio shack. Two operators would be active from Maftoa and the other two operators and Tony from Fapufa. The team consisted of: Hans DL6JGN (team leader), Ernö DK2AMM, Heye DJ9RR, Ronald PA3EWP and Tony 3D2AG.

Tony arranged most of the things for us in Fiji—authorizations, customs documents, receipt of our shipped boxes, including making local purchases of materials, and shipment of most things to Rotuma. Without Tony, it would have been even more difficult to realize our goal.

A few weeks before our trip we were told by Tony that he could not come along due to work circumstances because he could not get the vacation days. The house in Fapufa was therefore not available. We decided to stay with four operators in Maftoa. In retrospect, this was much better than being active from two different locations.

Because we were very limited with our luggage on the flight to Rotuma, we had to send materials beforehand from Fiji to Rotuma by boat. Two crates were packed with different materials such as: fiberglass masts, coax cables, guy materials, bandpass filters, RX antennas, tools, 220-volt junction boxes, extension cords, a home-made amplifier, power supplies and so on. In total it was about 150 kg of materials. At the time of shipping, plans were for two different locations on the island, so many materials were double packed. The crates arrived in Fiji the first week of January.

Electric power on the island is very limited; each village has its own facilities. In Fapufa they have no mechanically generated electricity at all—they use solar energy. In the village Maftoa they have a community generator which is only active from 18:00 to 21:00. For us this was

not an option. We therefore bought a generator on Fiji for our time on Rotuma. We also took 2 barrels (400 liters) of diesel fuel on the ship. In this way we had our own power supply and were independent of the village generator.

There was a tropical storm around Fiji a week before our departure for Rotuma—all flights and also the boat were postponed indefinitely. This had us all concerned, but fortunately it worked all out well. The Friday that we arrived by plane on Rotuma, the boat had arrived on Thursday afternoon.

We were already a bit prepared for almost any emergency. A few dipoles and coax cables were packed in our luggage at the last moment to ensure that we could operate in case we had to stay a few days longer on Fiji or the boat with our materials had not yet arrived at Rotuma.

Harieta also flew with us from Suva to Rotuma. Harieta was our hostess on the island. When it was time to check in we were told that our flight to Rotuma had been canceled for an indefinite period of time. They were busy with paving the runway and there was much debris that prevented the plane from landing. At that time, we had a serious discussion with the airline company. We had to wait an hour because they were going to call Rotuma. After an hour we were told that the flight would be delayed only one hour. This was quite a relief.

We arrived at Rotuma about 2½ hours later than expected. We knew there would only be a few hours of daylight and the chance that we could be active that evening was almost none. After a visit to the guesthouse we went to the radio shack. This was a big disappointment. We found a building that had not been inhabited for 10 years, no windows and doors, and a roof which was as leaky as a sieve. The mold stood on all walls due to the moisture. They had only cleared the building for us, nothing else.

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Refueling our generator was part of our daily ritual.

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## 3D2EU—Rotuma IOTA OC-060—2018 (Con'd)



**This was to be our radio “shack” for our stay. A piece of sail cloth provided a roof.**

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There was one room that was reasonably dry, so we used it. The roof was sealed by a local resident with a piece of sail cloth.

We started to make this space a little habitable. The table had to be raised at least 25 cm because it was much too low. The window had to be closed with a piece of sail cloth because during rain and wind the equipment would get wet. We had also arranged for an extra table and four chairs. We searched for a suitable place for the generator which finally was placed about 10 meters from the



**The inside of our shack was not exactly a great habitat for our radio equipment, either.**

house. We also quickly looked at where to put the antennas on the beach the next day. After all these preparations it was dark and we went back to the guesthouse for dinner. That ended our work for the evening.

Early the next morning at sunrise we started right away. Unfortunately, we could not place the antennas on the beach because it was high tide which left no beach available for antennas. Preparations were made to place the antennas two hours later. This was a lot of work and we knew that we couldn't finish all the antenna work that day. We focused on the antennas up to 40 meters. The low band antennas were for the next day. We knew by now that we were facing challenges because we could not place the 18m fiber masts on the beach. We asked John if there was someone in the village who wanted to climb the palm trees for us to hang a pulley for 80m and 160m. John arranged for a climber the next day. The 40-meter antenna was perfectly positioned on some rocks about 1 meter above sea level during high and low tide. It was very difficult to find a place to affix the guy-wires but our choice survived the whole period. The other two multi-band antennas were placed in a way that they were free

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**A blessing of a tropical island DXpedition venue is that there are usually palm trees from which to hang antennas, and the residents are quite adept at climbing them!**

## 3D2EU—Rotuma IOTA OC-060—2018 (Con'd)

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of the trees. The biggest challenge were the guy-wires which had to be placed in the sea. Fortunately, there were some rocks found at low tide which we found to be suitable.

The first day we were able to make QSOs on all bands up to 40 meters. The next day, a local boy from village climbed into the selected palm trees to fix pulleys as high as possible. Heye and I focused on the 80 and 160 meters antennas. We first installed the 160 meters inverted-L. We moved the horizontal part more than 50 meters away. Unfortunately, this was not entirely towards the north (Europe) but we did not have other options. We only had room to install a single elevated radial. This also had certain "bends" in it. There was simply no space to put up a second radial. After some minor adjustments in length, the resonant frequency and SWR were good.

In the afternoon we installed the 80-meter inverted-L; we had to hurry because the afternoon high tide was rapidly approaching. The palm tree we used for 80m was a little shorter than the 160m palm tree. The last 3 meters were horizontally pointed towards the north. Because of a lack of space, we also had just a single elevated radial, which was pointed such that it hung free from the trees and could not affect the other antennas. Almost the entire beach was filled with our antennas—we could not do much more with the available space. Fortunately, we had enough coaxial cabling with us because some antennas needed more than 60 meters of cable to get into the shack.

With most of the antenna work behind us, we also had to find another place for the generator, because the neighbors complained about the noise. We were not surprised about this; it was indeed a terrible sound. We placed the generator under our house, which allowed the neighbors to sleep normally again. The disadvantage for us was that when the weather was calm, the exhaust gases immediately entered into the shack. We regularly had a break to breathe some fresh air for 5-10 minutes. HI.

The next day I put up the K9AY reception antenna, which was about 15 meters away from our house. This K9AY could be used on multiple radios thanks to a splitter and bandpass filters from Stockcorner (Thank You Casper). In most situations the reception on 80 and 160 meters was better on the verticals than with the K9AY. The noise level on the vertical was extremely low.

Our station consisted of two Elecraft K3 and one Elecraft K2. All stations had an amplifier; Expert 1.3K, Tokyo High Power 1.1 and a homemade 600 watt amplifier. We logged the QSO's with Wintest (CW / SSB and RTTY) and WSJT-X (FT8). We used bandpass filters between the exciters and the amplifiers.

During the day it was often difficult to be active with three stations at the same time because we only had two multiband verticals. Regularly we used the 40m vertical at 15 meters. This worked reasonably well. Later we assembled an additional vertical dipole for 17 meters. This allowed us to combine multiple bands.

The propagation was certainly not optimal in the first days, during the night there were at least two hours that all bands were dead. Nothing to do. Fortunately, later that week the propagation improved a bit, otherwise the long night shifts were terrible. Almost every day during the European Sunrise and Sunset we were active on the low bands. However, the propagation was poor on the low bands. At 160 meters, only a few Europeans made it in the log, certainly not the Western Europeans. At 80 meters there were only 3 or 4 reasonable openings into western Europe. Forty meters was much better—around sunrise/sunset in Western Europe—the signals peaked above S9. The higher bands, 10, 12 and 15 meters, were not good for Western Europe; even at 17 meters we logged less than 100 QSOs with Zone 14. Ten and 12 meters could be used for Asia and North America. Almost 1,000 QSOs were logged here. These band openings were often open no longer than one hour, so you had to be there or you missed the openings.

On average, we made between 1,500 and 2,000 QSOs per day. However, at the end of the 2nd week Ernő became seriously ill, so the QSO number dropped. We went to the local hospital twice to try and find out what was wrong with Ernő. Fortunately, after some medicine and enough rest, he felt much better during the third day. All four of us had health issues. Because the temperature was far above 30 degrees C. with humidity of around 90%, every wound on your body was infected within a day. This in combination with a lot of flies and generally poor hygiene, it was particularly unhealthy. I

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**Humidity?** In the tropics, umbrellas are usually nearby.



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had to wear a pair of long pants with socks after the third day. This, to keep all flies away from the infected wounds. With such temperatures that was certainly no fun.

Due to the high humidity, everything was clammy. We slept outside in a cabin above the water. Here we lay on thin mattresses under a mosquito net. However, after a few days these mattresses were wet due to the high humidity. I can assure you it was not comfortable. Also, all clothing was just clammy, if you hang a T-shirt on a line before sleeping, a few hours later it was wetter than when you hung it. There was regularly no running water from the tap. If you had rinsed your clothes, it would take 2-3 days before it was a little dry to put them on again. We drank all the beer on the island. There was nothing left



**Our sleeping quarters. Just like the travelogues show, except we had no air conditioning—and that makes all the difference.**

for sale. We were able to buy the last 2 boxes in a shop on the other side of the island. There was nothing more in the shops. We practically drank only water, coffee, or tea; there was nothing else to buy on the island!

About 2,000 people live on the island. They speak their own language, Rotuman. Children from 6 years old start learning English at school. Rotuman is always spoken at home. Until about 17 years they can go to school on Rotuma, then they have to go to Fiji or beyond to continue studying. All houses on Rotuma are owned by families, they are not allowed to sell these houses. It always stays in the family. On average, one out of three houses are empty for many years (including our radio shack, HI). All residents on the island are very friendly and hospitable.

The island's export products are mainly fruit, coconuts, wicker mats and baskets. John and Harieta have a com-

pany specializing in a natural healing oil. The hefau trees produce nuts that contain this oil. Many Rotumans work for them. John gave us a very educational tour into the interior of Rotuma. For years he has great interest in Botanica, and then specifically focused on plants for medical health. The last week we drove around the island to see more than just the Itu'muta district. Fortunately, it was dry and sunny that morning.

I was the only SSB operator of our team. That was very unfortunate because my favorite mode is CW. But on the other hand, I can also speak with happiness that I could change a lot of modes. Especially the last week the pile-ups decreased, and of course the propagation was not optimal that week. I noticed after about 20 minutes of making QSOs in a certain mode the pile-up was as good as gone. I then went to another mode and got the same results again. So, I changed from CW, SSB to RTTY. Strangely enough there were always signals in FT8. It seems that more and more hams are active in this mode. Here the pile-up was huge. Unfortunately, the DXpedition mode of the WSJT-X software was not yet available. We still had to do it the traditional way. If the signals were fine we could make 1 QSO per minute. I worked a few Europeans in this mode. When I noticed that the band was open to Europe, I immediately went to CW or SSB. In any case working the FT8 mode was a nice experience. In total, we logged 1,212 QSOs in this mode. We were very focused on working Europe. This is also apparent from the statistics, 32.6% of our QSOs were with Europe.

We tried to upload our log every day to Clublog. This was not always possible. Our internet was very slow, it was a 3G connection but too busy. From 06:00 in the morning to the late evening it was impossible to use the internet at all. We uploaded the log overnight. And, even that was not always possible. When I was on the low bands, most of the time I was also active on the ON4KST chat side. This gave many advantages. What is also very clear to notice is that more and more amateurs are no longer searching on the bands for DX, they are waiting for a dx-spot in the DX cluster. We often gave a CQ for 10 minutes and did not receive any response, we spotted ourselves in the DX cluster and less than a minute later the pile-up started.

For the children in our village we had brought several small things; for the boys, matchbox cars and baseball caps and for the girls, hair bands and bracelets. We also took many T-shirts to hand out. They were greatly appreciated.

At the end we had more than half a barrel of diesel left, and we gave it to the people in the village. They could use it for the village generator. We gave our generator to our host and made an agreement with him that if Tony

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## 3D2EU—Rotuma IOTA OC-060—2018 (Con'd)

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3D2AG is active again from Faputa he could borrow the small generator from John. Tony does not have to use solar energy and batteries anymore, and he can also use a small amplifier.

For Tony 3D2AG I left 2 pieces of 10m glass fiber masts. Jan DJ8NK had given us an 18-meter Spider-beam mast, which we also donated to Tony. We also left our wire antennas for 80m and 160m for him. Now Tony can also become active on the low bands. We also left over 100 meters of coax cable and hundreds of tie-raps.

On Thursday, March 15 we started to take down most of the antennas since Friday was the day that we would fly back to the world from which we came. Except for the 10/15/20 meter, 40-meter vertical and one complete station, everything was cleared at the beginning of the evening. That way we could remain active until the last moment. We wanted to be sure that we would log a little bit more than 30,000 QSOs. In the morning at 05:00 I had the last shift and had planned to make some QSO's at 40 meters during our last sunrise. First, I started to upload the complete log on Clublog. This took a little more time than expected. While doing this I noticed that there were already more than 30K QSOs in the log and decided not to make any more QSOs. I started to take down the last radio setup and packed it for transport. When daylight came the shack was as good as empty. After breakfast we packed the last two antennas and cleared everything. The crates were closed and ready to be transported to Fiji. Around mid-day we were completely ready for our return journey.

Around 15:00 we left for Fiji and by 7 PM we were in our hotel in Suva. This was a paradise for us. Almost no flies, hot water while showering, a normal dry bed, no mold on the walls, no cockroaches, no exhaust from the generator, normal windows, air conditioner, a menu card in the restaurant, again plenty of beer etc. At that moment you realize what you have missed in the previous three weeks. From that moment on you will always appreciate the smaller things that were otherwise considered normal.

After a good night's sleep, we went to a medical clinic to have a look at the wounds on our legs again. In Fiji they have more experience with this than in Europe. After a check we all got antibiotics and ointment. The doctor suggested that we should have another look at the wounds again in Europe if they were not any better. But after 3 days we all noticed some improvements. We also received anti-worm tablets as a precaution. This is because the drinking water sometimes carries these parasites.

In the afternoon we visited Tony 3D2AG; he lives on the other side of Suva on a beautiful location near the sea.

You can hardly have a better location for our hobby. We offered him several ideas to improve his antenna situation. Now he uses many dipoles whilst verticals would function much better (less than 10 meters away from the salt water).

The crates with our materials were to arrive on Sunday afternoon by boat from Rotuma. Tony and John will arrange further transport to the Netherlands. After a few hours we went back to our hotel following our pleasant and unforgettable meeting with Tony.

Sunday morning, we had a farewell breakfast with John and Harieta. They also flew back with us from Rotuma. That day we walked around for a few hours in Suva as regular tourists. In the evening we flew by plane to Nadi on the other side of the island. In Nadi we stayed for another two days before we flew back to Europe. These additional days we had specially calculated as a buffer to minimize risk if the small plane could not fly from Rotuma to Suva. We were active from Nadi, only on 17 meters with a simple dipole from the balcony. More than 300 QSO's were made in CW and FT8 as 3D2EU/P. We returned on Tuesday evening via Singapore to Frankfurt. I had to stay for an additional night in Frankfurt because that night there were no flights to Amsterdam anymore.

A big thanks to all the club and individual sponsors. The realization of this DXpedition was made easier by this financial and material support.

We want to thank our regular sponsors and especially GDXF and Jan DJ8NK. Check our website for an overview for some additional information:

<http://www.rotuma2018.de>

All QSO's have been uploaded to LOTW and all QSL's will be sent in May, direct or via the Buro. In the meantime, we are already busy with the preparations for our next DX-expedition.

**"3D2EU Rotuma—a DXpedition to never forget"**

On behalf of the entire team,

—73, *Ronald*, PA3EWP

## ***Rotuma, Republic of Fiji***



**Looking across the bay at the village of Maftoa**

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### ***From the President***

Greetings fellow DXers! It is summertime in the northern hemisphere and chasing DX has been a bit strange. Now, I must say that I have never been very active in the summer months. I'm just usually too lazy to keep disconnecting antennas due to thunderstorm activity, and I do enjoy wandering outside in warm weather. But this year has been a bit different for me. It's called FT8; especially 6 meter FT8! Now, over the years I have not been very enthused about 6 meters. In the "old days" it had to do with TVI issues I guess. But I'm not usually very patient when I chase DX, and 6 meters requires patience for sure. I can say that I usually found digital modes to be a tad tedious and yes, a bit boring at times. Well, then FT8 came along. OK, I can hear the moaning now. FT8 is a no skill digital mode where computers talk to each other. Well, not exactly. I thought the same thing. But after hearing a super presentation about it by Joe Pater W8GEX at W4DXCC last year, and hearing input from my fellow "local" DX hounds, I decided to give it a try. That was back in January 2018. Since then, I have been hooked. When 6 meters started opening up a couple of months ago, I shifted a lot of my activity to that band. When I started FT8 in January, I had 3 DXCC entities over the last 53 years of being a ham. I now have 31. My WAS is up from 17 pre-2018 to 45 as of now. Actually chasing stuff, especially when the band is open a bit can be fun, challenging, and yes, addictive. So, if you haven't tried it yet,

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may I suggest giving it a chance? The activity there on ALL bands is beyond your wildest dreams. I never heard so many stations actually USING 6 meters too! And, do you want to actually see if a band is open or not? Just start CQing on a dead band. I think I woke up what was thought to be a dead band a few times already.

KH1/KH7Z! I trust any of you who needed Baker/Howland for DXCC was able to work this fine operation? It is always a bit strange to see a top 10 DXCC show up in July. But that was the deck dealt to them and they did one heck of a job! Bravo to the team! INDEXA supported this one proudly! Thanks to the team for doing such a fantastic job! I might add that they made 6,000 QSO's on the new FT8 mode using the most recent version of FT8 software that included the DXpedition "fox/hound" format. If you didn't see this in action, it was awesome to watch. I was watching on the FT8 waterfall display multiple stations being moved into what I call the Fox's den and then get worked by the DXpedition, as many as 5 at a time in 5 perfectly spaced columns on the waterfall. I predict that FT8 will be the mainstay digital mode of the future.

I will be at the W9DXCC convention in Chicago and the W4DXCC (SEDCO) convention in Pigeon Forge, TN in September! Hope to see you at one or both of these awesome DXer's events! Otherwise, I'll see ya' in the Pileups for sure!

73 de Bob Schenck, N200

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## Announcing

# **INDEXA MEMBERSHIP AMBASSADOR PROGRAM**

**Bob Schenck, N200 President INDEXA**

Have you ever thought about how you might be able to help spread the word about INDEXA? Have you ever asked your fellow DXing friends if they support INDEXA? Sometimes, that can be a bit awkward. We understand. INDEXA is starting a new program where you, our world-wide membership, can help spread the word about INDEXA. It is a fairly simple concept. INDEXA will provide you with materials for making a presentation at a club meeting or convention. You simply make the arrangements. We give you materials online. The only thing we ask is that you download and prepare some files. You would need to print out some INDEXA brochures. We also have a nice "INDEXA Overview" PowerPoint program and a "DXpedition Planning" video by Ralph Fedor K0IR that make nice presentations as well. All these items are available for download via our web site [www.indexa.org](http://www.indexa.org).

If you are able to set up a booth at a DX Club or at a convention, we will mail you an INDEXA flag to hang up. We only ask that you return it when you are done so that we can keep it available for other events.

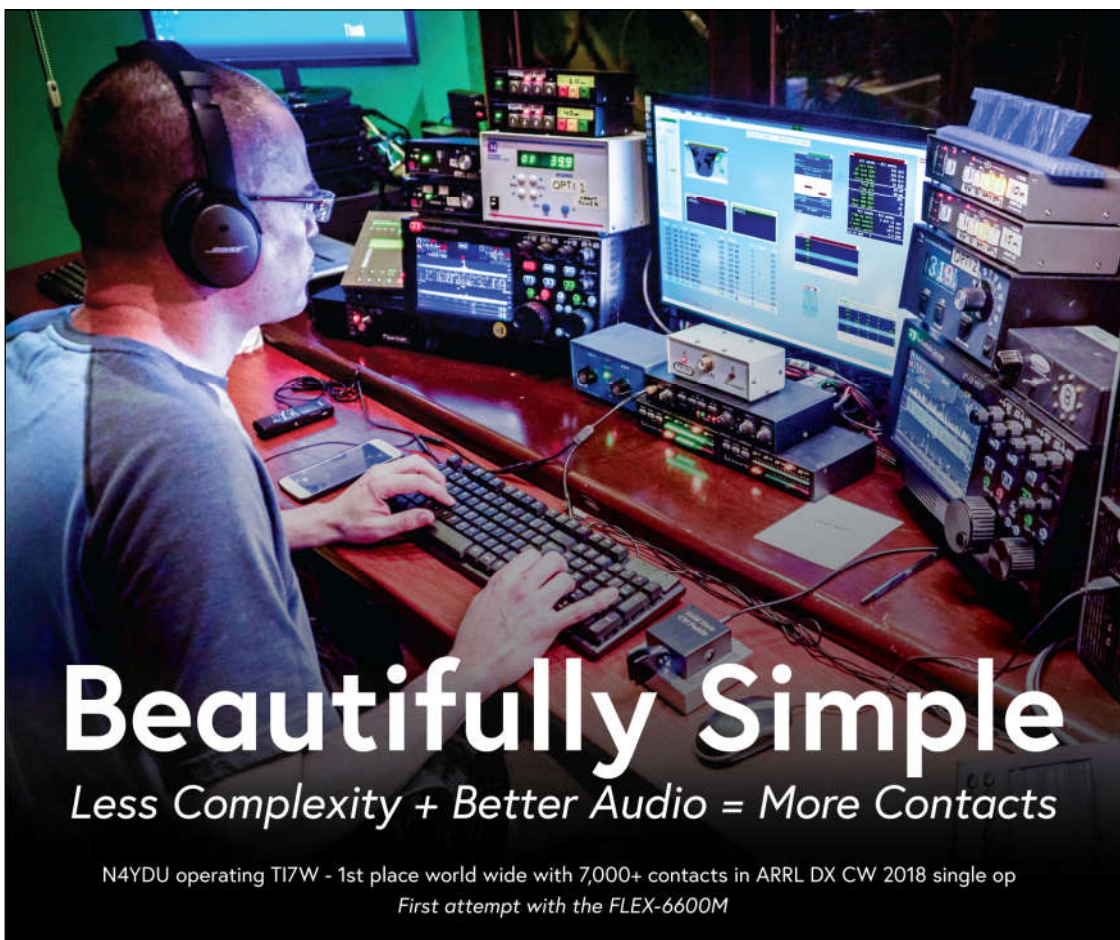
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What makes INDEXA special is that it is run by volunteers who participate at their own expense. INDEXA has kept membership affordable at only \$20/year! Of course we welcome additional contributions. We rely on our membership to help spread the word for us! If you think this program would work for you, drop us an email and we will help you with arrangements.

— [n200@indexa.org](mailto:n200@indexa.org)

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